

MAGAZINE ZINE

2025



BRAIN™



THE POWER OF ARTIFICIAL INTELLIGENCE FOR OPTICAL SORTING

Your business is driven by quality. You need to maximize the good and minimize the bad to succeed. And it all starts with a precise recipe. Getting it right takes time and years of experience. Until now.

Introducing BRAIN™ – AI powered software taking accuracy and efficiency to a new level. With BRAIN™, you can create the most complex recipes in a flash. So, you can achieve your highest sorting performance.

EXTREME PERFORMANCE. MADE EASY.



SELECT-SET-SORT!

BRAIN™ takes precision and easy operation to a new level. BRAIN™ is our AI software for optical sorting, which allows you to easily create the most complex and accurate recipe - start sorting in a flash.

Take your business to a new level with the combination of SEA.IQ PLUS and BRAIN™. The new AI-powered software matches multiple data collected during

tens of thousands of scans per second and uses it for the highest precision of sorting. Each set of cameras integrates RGB, NIR, and SWIR or UV allowing the system to recognize more than 16 million colours and the infrared spectrum ensuring the highest quality output.

Extreme performance. Made easy.

AI Software Revolutionizing Efficiency of Optical Sorting

The cutting-edge optical sorter SEA.IQ PLUS is equipped with the game-changing AI-powered software. At Cimbria, we leverage our market-leading expertise and decades of experience to power our AI software, BRAIN™, with unique insights and massive long-term experience.

BRAIN™ creates complex recipes in a flash using machine learning to instantly set parameters, minimizing manual adjustments. Combining BRAIN™ with Cimbria's advanced optical sorting technology can increase efficiency by approximately 18% and set new standards for accuracy never thought possible.

Our artificial intelligence-powered software control system, BRAIN™ is a new highly advanced control system that allows customers to easily create the most complex recipes for the best optical sorting, increasing efficiency by up to 18%.

Michela Pelliconi, head of sales for optical sorting at Cimbria says "With BRAIN™ we have revolutionized the way our top-range optical sorter operates. Our many years of experience and in-depth knowledge of what makes the best possible sorting are key to creating the most complex recipes for optical sorting. This simplifies the manual operation of the machine because the right settings have already been adjusted for an optimized outcome through artificial intelligence."



**Artificial
INTELLIGENCE
empowered
by industry
leading data**



SEA.IQ PLUS

Dive into the Future

#opticalsorting
#opticalsorter
#purity
#recycling
#demonstration



Raise your sorting capabilities to the next level with the cutting-edge SEA.IQ PLUS – Cimbria’s most advanced optical sorting machine for grains, seeds, food, and recycling.

Empowered by Cimbria’s AI pioneering software, BRAIN™, SEA.IQ PLUS streamlines recipe creation, eliminating manual adjustments, resulting in enhanced accuracy and reduced operating costs.

With multispectral cameras, the SEA.IQ PLUS detects defect sizes and shapes, while its multifrequency infrared technology results in the detection of contaminants invisible to the human eye.



LEARN MORE
AND REQUEST A
DEMO HERE

Put us to the test! Request a demo at our testing centers and discover how Cimbria equipment can be customized to meet your business needs, ensuring the highest product quality from your processing line.



POWERED BY ARTIFICIAL INTELLIGENCE



#opticalsorting
#sorter
#sorting
#processing
#sorting
#opticalsorter
#AI

- **Artificial Intelligence:**

Our innovative software BRAIN™ leverages AI to enhance optical sorters' safety, efficiency, and navigation. It's like having a brilliantly intelligent navigator right at your fingertips!

- **Optical Sorting:**

Unleash the next level of your processing. By analyzing colours, shapes, sizes, and even chemical properties, our optical sorters ensure precise separation. Whether separating high-quality products from defects or removing foreign material, SEA.IQ PLUS delivers excellence.

Achieve unparalleled precision and the Next Level of precision with Cimbria's SEA.IQ PLUS market-leading optical sorting AI technology: BRAIN™.

Contact us to experience this top-notch Optical Sorters user experience.

EXTREME PRECISION IN RECYCLING



#recycling
#opticalsorting
#recyclingplant
#plasticsorting
#plasticprocessing
#plasticsorters
#plasticflakes

Our loyal customer Forever Plast SpA, a leading company in the plastic recycling industry, has recently launched an ambitious project to revolutionize the sorting and purification process of HDPE and PP flakes, using Cimbria's world-leading optical sorting technology.

The new optical sorting line includes a combination of seven Cimbria SEA optical sorting machines to efficiently select both polymers and colours in the same processing line.



Circular economy: High precision sorting of Plastic Flakes

Five SEA.IQ PLUS and two SEA.HY Optical Sorters ensure the best sorting of polyethylene from polypropylene and other polymers, as well as the separation into different streams of colour.

This targeted sequence of optical sorters and the output it creates is revolutionary in the plastic recycling sector and the plant plays an important role in the circular economy of plastic recycling in Italy.



Taking plastic recycling to the next level



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ABOUT THIS
GREAT PLANT
HERE



The Cimbria installed optical processing plant, at Forever Plast SpA, is designed with a specialized process that highly optimizes its flexibility and allows for alternative sorting of post-consumer polyolefins, PEhd/PP, and post-consumer materials.

This flagship plant is an interesting example of the many opportunities and benefits of our innovative optical sorting solutions for hdpe pp and PEhd/PP processing. It was designed by our experts in collaboration with the customer together with other involved experts.

Interesting details of this revolutionary plant:

- a line with 7 optical sorting machines
- it sorts all types of colours and polymers, without producing any waste
- it plays an important role in the circular economy of plastic recycling

The industry requires higher-than-ever quality standards which we match at Cimbria with our plant design maximizing the effectiveness with cutting-edge machinery.

Revolutionizing Polystyrene Recycling from WEEE at Plasticsavio Plant

The innovative dry polystyrene recycling process at the new Plasticsavio plant in Bertinoro, Italy, has significantly revolutionized a more efficient process with numerous advantages over traditional water-based sorting plants. With this dry treatment approach, the processing plant not only reduces waste but also achieves substantial energy savings, resulting in an environmental and economical sustainable processing line.

Two Cimbria SEA.HY Optical Sorters are pivotal elements in the recycling process of polystyrene, leading to an incredible level of purity in the sorted material. The sorted materials from this plant have a wide range of industrial and commercial



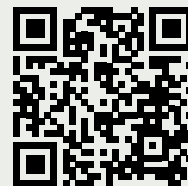
uses, from the packaging industry to the automotive sector, construction, and horticulture. The waste generated during polystyrene production is recycled: the separated metals are reused, and other polymers such as PP and PVC are divided further and sold for recycling purposes.



Output after delta cleaning

WEEE circuit refers to the recycling and disposal of electrical and electronic products at the end of their life cycle, in this case primarily from refrigerators.

HEAR THE STORY FROM OUT CUSTOMER IN THIS VIDEO.



The groundbreaking dry polystyrene recycling process at the new Plastisavio plant in Bertinoro represents a remarkable leap forward. By adopting this dry treatment approach, the plant not only minimizes waste but also results in substantial benefits achieving significant energy savings, making it both environmentally and economically sustainable.



An Extra Eco-Friendly Recycling Plant

This Plastisavio plant processes approximately 2,000 kilos of input per hour, yielding 1,300-1,400 kilos of high-quality polystyrene. The output is used to create a variety of materials for industrial packaging as well as automotive components. Residual materials, such as metal and polypropylene, are shipped to other plants for further processing.

substantially reduces energy costs. At the core of the operation is our SEA.HY optical sorter. It efficiently separates materials based on their chemical properties. While traditional sorting occurs in water tanks, Cimbria's Optical Sorter method ensures a unique dry plant sorting process that minimizes waste and energy consumption.

Advantages of dry processing include:

- **Environmentally benefits:** Unlike traditional methods, this process doesn't release microplastic into the environment.
- **Economical gain:** strongly reduces operational costs.
- **Waste Reduction:** optimizing recycled matter, significantly **increases** the volume of recovered material.
- **Energy Efficiency:**



Output after SEA.HY optical sorting

Leading the Way in Plastic Recycling with Optical Sorting!



As featured by Recycling Today and several other industry media outlets in 2024, Cimbria is leading the way in the recycling of post-consumer plastic through advanced optical sorting technology.

The potential for increasing the sorting of plastic waste is gigantic with a staggering 400 million tons of plastic waste produced globally each year, only 10% is currently recycled. But Cimbria's Optical Sorting now allows for material recovery that was unthinkable just a few years ago!

"It is increasingly important to recycle post-consumer materials such as plastic, and luckily, we do have the right technology for it already. An important prerequisite to recycle plastics is the

separation of colour and polymers in flakes and granules. This ensures the highest quality of the selected materials, so it can be reused in the best way." says Michela Pelliconi, Head of Sales for Optical Sorting, emphasizing the importance of recycling post-consumer plastics.

"The market for plastic sorting is rapidly growing with a constant flow of new plants. Europe and especially the Nordic countries are growing with Germany, Italy, and France being European first movers in the field. If we improve the collecting of post-consumer plastic waste, we have the technology needed to sort the plastic and thereby increase the reuse of plastic distinctively", says Michela Pelliconi.

The plastic recycling world is buzzing with interest in Cimbria's advanced optical sorting technology, which ensures the highest quality separation of colours and polymers in plastic flakes and granules - allowing the recovery of up to 99.99% of the sorted plastic. This means optimal reuse and a significant waste reduction.

DOES THE SMALLEST ALTERATION IN COLOUR MAKE A WORLD OF DIFFERENCE FOR YOUR PRODUCTION?

Discover some of the main principles of the very successful SEA CX optical sorter.

Such as, how it uses multi-spectral RGB technology to detect and remove contaminate product that doesn't match your recipe and uses advanced technology to recognize a wide range of defects.

See Beyond the Human Eye - Much More Than Full-Colour! Tell us about your sorting challenges so we can support you find the right solution from our range of top-of-the line optical sorters.

ADVANCED SOLUTIONS FOR OPTICAL SORTING



LEARN MORE
ABOUT THE
CIMBRIA SEA.CX
HERE



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